

What is claimed is:

1. A vehicle navigation server comprising:
  - a travel route calculating device for calculating at least one proposed travel
  - 5 route of a vehicle based on data input by a registrant to the server, the data including a current or start position and a destination of the vehicle;
  - a traffic information extracting device for extracting traffic information relating to the proposed travel route from a traffic information storage device;
  - a communication point setting device for defining at least one communication
  - 10 point on the proposed travel route, so as to newly extract traffic information for an area from each communication point to the destination from the traffic information storage device and to send the newly extracted traffic information to a vehicle navigation device built in the vehicle when the vehicle passed the communication point;
  - a data storage device for storing at least data for identifying the registrant, data
  - 15 of said at least one proposed travel route, and data of said at least one communication point, and
  - a data sending device for sending at least the traffic information and the data of said at least one communication point to the vehicle navigation device,
  - wherein said at least one communication point includes a point from which a
  - 20 detour route for taking a longer way around a place noted in the traffic information can be defined; and
  - the traffic information sent to the vehicle navigation device is a combination of detailed information about a section from the current or start position of the vehicle to selected one of said at least one communication point and simplified information about a
  - 25 section from the selected communication point to the destination.

2. A vehicle navigation server as claimed in claim 1, wherein the traffic  
information stored in the traffic information storage device is obtained from an external  
traffic information center and is suitably updated so that substantially the newest traffic  
5 information is stored in the traffic information storage device.

3. A vehicle navigation server as claimed in claim 1, wherein the selected  
communication point is the closest communication point to the vehicle on the way to the  
destination.

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4. A vehicle navigation server as claimed in claim 1, wherein said at least one  
communication point is defined in at least one of a section far from the current or start  
position of the vehicle by a predetermined distance and a section far from an area to  
which the vehicle can reach in a predetermined time.

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5. A vehicle navigation device built into a vehicle, wherein the vehicle navigation  
device uses a vehicle navigation server as claimed in claim 1 and comprises:

an arithmetic unit for calculating a travel route to be defined, based on the  
current or start position and the destination of the vehicle, at least a portion of the traffic  
20 information received from the vehicle navigation server, and map data, where said at  
least a portion of the traffic information relates to a section from the current or start  
position to the closest communication point to the vehicle on the way to the destination;  
and

a memory for storing at least the data sent from the vehicle navigation server,  
25 the map data, and the calculated travel route.

6. A vehicle navigation system comprising a vehicle navigation server as claimed in claim 1, the system further comprising:

a vehicle navigation device built into a vehicle, where the vehicle navigation  
5 device uses the vehicle navigation server and comprises:

an arithmetic unit for calculating a travel route to be defined, based on the current or start position and the destination of the vehicle, at least a portion of the traffic information received from the vehicle navigation server, and map data, where said at least a portion of the traffic information relates to a section from the current or start  
10 position to the closest communication point to the vehicle on the way to the destination; and

a memory for storing at least the data sent from the vehicle navigation server, the map data, and the calculated travel route,

wherein when the vehicle navigation server detects that the vehicle has passed  
15 each communication point, the traffic information extracting device newly extracts from the traffic information storage device traffic information about a section between the relevant communication point and the destination of the proposed travel route stored in the data storage device, and the data sending device sends the newly extracted traffic information to the vehicle navigation device;

20 in the vehicle navigation device, the arithmetic unit calculates and defines a travel route from the current position to the destination of the vehicle, based on the received traffic information and the map data; and

data about the communication point which the vehicle has passed are deleted from the data storage device of the vehicle navigation server and the memory of the  
25 vehicle navigation device.

7. A vehicle navigation system as claimed in claim 6, wherein:

when one of a state that the vehicle has reached the destination, a state that the destination has been changed, and a state that the vehicle is out of the travel route

5 calculated and defined in the vehicle navigation device is detected, setting of each communication point defined before this detection is released; and

data about the released communication point are deleted from the data storage device of the vehicle navigation server and the memory of the vehicle navigation device.

10 8. A vehicle navigation system as claimed in claim 6, wherein the vehicle navigation device is connected to the vehicle navigation server via a cellular phone and the Internet.